Improving Physical Health

Designing urban environments for better physical health.

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Problem Statement

How can responsible urban design practices encourage physical activity and improve physical health?
Obesity Rate in the United States

Reason for the Increase

- Dependent of the Automobile
- Urban Sprawl
- Sidewalks and Crosswalks disappeared, disconnected or lead nowhere.
- Foods rich in fats and sugars and low in vitamins and micronutrients.
- Increase in total calorie intake
- Eating Out
- Convenience of Unhealthy Food
- TV Replaced Recreational Activity
- Lack of Physical Activity at Schools
- Home and Work Life
People Prefer Outdoor Activities

“66% of respondents who reported some degree of physical activity, while only 21% used an indoor gym and 25% used a treadmill” - Lee & Moudon

“Participants also reported greater enjoyment and satisfaction with outdoor activity and stated that they were more likely to repeat the activity at a later date.” - The Peninsula College of Medicine and Dentistry

Minnesota Biking 2007-2008
“46% of the respondents use their neighborhood streets for exercise, compared with only 11% using gym and health clubs, or exercise centers, and 9% using sport of recreation centers.” - Lee & Moudon

“Walking is the most practical way to achieve healthful levels of physical activity.” - Lee & Moudon

“The average gym membership cost between $40 and $50 a month, but when you add the initiation fee, you’re looking at as much as $800 a year.” - Carlo Dellaverson

“Outdoor and freely available neighborhood facilities are more frequently used for physical activity.” - Lee & Moudon
“Significant health benefits can be obtained through moderate activities such as walking and bicycling.” - L. D. Frank

“Regular physical activity helps improve your overall health and fitness, and reduces your risk for many chronic diseases” – Center Disease Control and Prevention

“To maintain and improve weight 30 min. or more of moderate-intensity physical activity on all, or most days of the week.” – CDC
Site Location

St. Cloud

Mississippi River

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**Positive**

- Up and coming downtown area
- Pathway along the river
- River neighborhoods are dense
- Newer developments have sidewalks, paths and neighborhood parks.

**Negative**

- Wide streets with no place for pedestrians.
- No large pedestrian network
- Sidewalks start and stop
- Reliant on the automobile
- Urban sprawl

**Images**

1. Major residential street with sidewalk
2. Highway 23 a wide road with many lanes
3. Highway 23 sidewalk with wide shoulder
4. Existing bike trail along the river
5. Railroad corridor
6. Ditch along 33rd Street South
Rating 1:
Roads that are only used for the car, traffic speeds are fairly high.

Rating 2:
Cars and pedestrians/bikers can use this road. No designated lane/sidewalk and lacks connections.

Rating 3:
Roads used for cars and sidewalks, or bike lanes located near the streets for pedestrians and bikers.

Rating 4:
Roads can be used for cars, bikes, and pedestrians. Street with sidewalks and designated bike lanes.

Rating 5:
High quality roads that are used by cars, bikers, and pedestrians. Well maintained and used daily.
Supportive Site Design

Rating 1:
Street doesn’t support any pedestrian or bike traffic.

Rating 2:
Street provides room for travel, but it doesn’t have built structures for travel.

Rating 3:
Supports some pedestrian travel, but lacks close buildings and little to no amenities.

Rating 4:
Supports pedestrian travel with close buildings. Amenities are present, but are scattered along the street.

Rating 5:
Supports pedestrian travel with nearby buildings, benches, public art, and strong character.

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Umbrella of Safety

Rating 1: Street feels extremely unsafe for walking and biking.

Rating 2: Streets feel unconformable, but has a light amount of pedestrian traffic.

Rating 3: Relatively safe for both pedestrians and bikers. Slight uneasy feeling, but won't discourage travel.

Rating 4: Roads can be used for the car, bike and pedestrian. Street with sidewalks and designated bike lanes.

Rating 5: High quality roads that are used by cars, bikers, and pedestrians. Well maintained and used daily.
Existing Pathways

Bike & Walking Paths: Separated from vehicular traffic and cannot be used by motorized vehicles.

Neighborhood Trails: Trails help connect neighborhoods and provide a space for recreation.

Bike Routes: These bike and walking trails are marked trails, but they are along sidewalks.

Parks: St. Cloud has many parks of various sizes located throughout the city.

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Project Goals

- Encourage physical activity among the residents of St. Cloud to improve physical health.

- Create a large connected pedestrian network throughout the city and connect to the greater trail system outside of town.

- Encourage as many forms of alternative forms of transportation for all seasons.
1. Highway 23
2. 33rd Street
3. Railroad Park
Highway 23

Current Site Image

Sculpture Plaza Detail Plan

- Bike Lane
- Sidewalk
- Granite Square Seating
- Sculpture
- Concrete Paving
- Coniferous Tree

Summer View of Sculpture Area

Left:
Smooth white granite blocks provide a place for seating around a granite sculpture.
Pedestrians travel across stamped concrete crosswalk to the meandering bike trail that brings travelers to restaurants with outdoor eating that helps create a comfortable street life along the road.
Highway 23

Night View of Benches

Left: Urban Mile Marker
Far Left: Smooth granite benches and trail markers are found along the trail in the urban area. Lights line the trail for illumination.

Mile Marker Detail

Current Site Image

Urban Mile Marker
10’ Wide Bike Trail
Urban Light Pole
Turf Grass

Ornamental Tree
Examples: Amur Maple Crabapple Lilac
33rd Street

Master Plan

- Existing Building
- Bench
- Ornamental Tree
- Paver Street Crossing
- Turf Grass
- Tall Grass
- Granite Rock Bench
- Gravel Seating Area
- Granite Rock
- Sculpture
- Coniferous Tree
- Large Shade Tree
- Hill
- Plantings
- Bike Trail
- Dirt Trail
- Gravel Trail

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Sculpture View

Above Right:
Example of how the sculpture would be carved.

Left:
St. Cloud's strong granite history is carved into large granite rock sculptures. Granite rocks provide places for people to sit along the bike, dirt and gravel trails that weave in and out.

Winter View

Left:
During the winter the gravel and dirt trails turn into skiing and snowshoeing trails.
Above:
Rural mile marker

Left:
Tall grass frames out the granite seating area along the bike trail. Along the trail mile markers also made from granite. Trail can be used for biking, walking and rollerblading.

Mile Marker Section

Current Site Image

4’ Gravel Trail
10’ Tar Trail
Rural Mile Marker

Tall Grass
2’ Dirt Trail
Turf Trail

Ornamental Tree
Railroad Park

Winter Section

Large Shade Tree
Coniferous Tree

Tall Grass
4’ Gravel Trail
Granite Rock Bench

10’ Tar Trail
Rural Light Pole

Tall Grass Examples:
Big Bluestem
Sideoat Gama
Switch Grass

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Railroad Park

Front Plaza Space

Left:
The front plaza space has a granite water feature with black and white granite blocks for seating along with planters and flowering ornamental trees frame space.

Raining Picnic Shelter

Left:
Large picnic shelters provide a place for group gathering with picnic tables and provide covering in all kinds of weather.
Kids Zone

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Master Plan

Color Concrete Plaza
Granite Water Feature
Picnic Area
Large Shade Tree

Wood Granite Bench
Bike Rack

Granite Square Seating
Raised Granite Planters
Parking Lot

Playground
Wood Logs
Urban Bench
Raised Poles

Coniferous Tree
Picnic Shelter
Dirt Trail

Waves
Ornamental Tree
Turf Grass
Dirt Trail

Tall Grass
Painted Shapes
Urban Light Pole
Bumpy

0 10' 30' 70' 150'

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Kids Zone

Kids Playing Area

Left:
Kids concrete trail has a short logged section for kids to walk and bike over. The center piece of the Kids Zone is a large playground. An existing railroad building was remodeled into an information center with restrooms and large rooms for the community to use.

Kids Trail Section

Color Metal Poles
14’ Concrete Path

Urban Light Pole
5’ Tar Trail

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Answer to the Question

How can responsible urban design practices encourage physical activity and improve physical health?

- Providing a place for physical activities in sidewalks, trails and parks.
- Creating a large network among the city.
- Trails have multiple activities for the trails and parks.
- They can be used year round in all types of weather

Other Benefits
- Creates an attractive city
- A place people want to live
- Better quality of life for people living in the city


